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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/730,786	12/07/2000	Satoshi Mikami	N00230US	8900

21254 7590 10/22/2004

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EXAMINER

TRAN, DZUNG D

ART UNIT PAPER NUMBER

2633

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/730,786	Applicant(s) MIKAMI, SATOSHI	
	Examiner Dzung D Tran	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 33 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 07/20/2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Stephen US patent no. 6,563,614.

Regarding claims 1, 7, 14, 20 and 27, Stephens discloses an optical communication system (figure 4) for amplifying an optical signal propagating through an optical transmission line 15 (see figure 2 for upward and downward transmission line) by using an optical amplifier in an optical repeater 20 and emitting an amplified optical signal to an optical transmission line mounted at a back stage comprising:

a transmission line compensating device 12 to generate control light (e.g. monitoring signal, abstract, col. 9, line 56-57) for producing a Raman amplification effect (e.g. Raman amplifier 36 of figure 4, col. 8, lines 2-3) within said optical transmission line based on a control signal (e.g. compensating channel λ_{ci}) superimposed on said optical signal (col. 7, line 36-41).

Regarding claims 2, 8, 15, 21 and 11, Stephens discloses in figure 2, the transmission line compensating device 12 is so configured as to send said control light to an optical transmission line mounted at a front stage outside of said optical repeater 20.

Regarding claims 3, 9, 16 and 22, Stephens discloses in figure 2, the transmission line compensating device 12 is so configured as to send said control light to an optical transmission line mounted at a back stage outside of said optical repeater 20.

Regarding claims 4, 10, 17 and 23, Stephens discloses in figure 4, the transmission line compensating device 12 is directly connected to amplifier 36 (e.g. mounted inside said optical repeater 20).

Regarding claims 5, 11, 18 and 24, Stephens discloses in figure 2, the transmission line compensating device 12 is separately and individually outside said optical repeater 20.

Regarding claims 6, 12, 19, 25 and 30, Stephens further discloses the transmission line compensating device 12 includes two or more control light sources 30 (col. 7, lines 66-67) to generate control light having a different wavelength (e.g. compensating channels λ_{ci} , col. 8, line 21) and an optical multiplexer 26_m of figure 5(a) to multiplex said control light fed from said two or more control light sources 30 (see figure 5(a)).

Regarding claims 13 and 26, Stephens further discloses the signal controller 12 can include one or more processor 60 (e.g. common circuit) to monitor and control the

sub-band control loops, the processors 60 can communicate with the network (col. 10, lines 37-43), Stephens further discloses the controller 12 can be embodied as feed-forward or feedback control schemes (e.g. common circuits since same circuit are use for forward and backward pumping) (col. 7, lines 60-61, col. 8, lines 27-28).

Regarding claims 28 and 34, Stephens discloses a light receiving circuit 24 which superimposed said control signal on a branched optical signal (a branched optical signal from 24-32) and a control circuit 32 which receives said control signal superimposed on a branched optical signal.

Regarding claim 29, Stephens further discloses an optical branch circuit 28 which branches a part of said optical signal propagating through said transmission line, and forwards said branched optical signal to said light receiving circuit 24.

Regarding claims 32 and 33, Stephens shown in figure 4, transmission line compensating device 12 receives optical signal from optical amplifier 20 and optical amplifier 20 receives optical signal from transmission line compensating device 12.

Regarding claim 35, Stephens further discloses a wavelength band of control light is λ_{ci} different than a wavelength band of optical signal (λ_1 to λ_n), see figure 3.

Regarding claim 36, Stephens further discloses the controller 12 can be used to oversee the operation and perform calibration of the sub-band control loops. Each control loops can include a calibration device 64 for controlling the drive signal applied to optical source 30 (col. 11, line 20-24).

Regarding claims 37 and 38, Stephens discloses the optical signal controller 12 is generally configured to compensate for power change (e.g. gain/loss power in the

transmission line) col. 8, lines 32-33, and configured to maintain a substantially constant optical power distributed in the link (e.g. adjusting the power level such that levels of optical signal are optimized (col. 8, lines 7-9).

5. Applicant's arguments with respect to claims 1-38 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/730,786
Art Unit: 2633

Page 6

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10/07/2004


M. R. SEDIGHIAN
PRIMARY EXAMINER